WIX1002 Fundamentals of Programming
Tutorial 9 Inheritance

1. Write statements for each of the following
   a. Write a static method compare that return true if two objects parameter (Student s, Teacher t) are belongs to the same class. Otherwise return false.
   b. Write a static method isClass that return true if the object parameter (Student s) is belong to any descendent class of Person. Otherwise return false.

2. Define a class Organism. The class contains the initial size of the organism and the growth rate. Create a constructor to initialize the instance variables. Then, define a class Animal. Animal is an organism that has extra instance variable which is the amount of eating need. Create a constructor to initialize the instance variable and a method to display the Animal instance variables.

3. Define a class PaySystem. The class consists of the payrate per hour and the number of hours. The class also contains a method to return the total pay for a given amount of hours and a method to display the total payment. Derive a class RegularPay from PaySystem that has a constructor and did not override any base methods. Derived a class SpecialPay from PaySystem that override the base method and return the total pay plus 30% commission.

4. Define a class PurchaseSystem. The class consists of product code, unit price, quantity and total price. Besides the class consists of a method to compute the total price and a display method. Derived a class SugarPurchase from PurchaseSystem. This new class add a sugar weight attributed and override the method to compute the total price as unit price*quantity*sugar weight.